

AMENDMENTS TO THE CLAIMS

1. (Previously Presented) An apparatus comprising:
 - a flow manager;
 - a remote logical port (RLP) model to model a remote physical port (RPP); and
 - a trunk scheduler to schedule transmission units direct to the remote physical port.
2. (Amended) The apparatus of claim 1 wherein the flow manager comprises:
 - a flow shaper; and
 - a flow parameter database to hold parameters indicating characteristics of the flows.
3. (Amended) The apparatus of claim 1 wherein the flow manager comprises:
 - a discard policy that is able to differentiate between the discard rates of at least two flows; and
 - a flow parameter database to hold parameters indicating characteristics of the flows.
4. (Amended) The apparatus of claim 1 wherein the flow manager comprises:
 - an RLP scheduler; and
 - a flow parameter database to hold parameters indicating characteristics of the flows.
5. (Original) The apparatus of claim 2 wherein the flow manager further comprises:
 - an RLP scheduler.
6. (Original) The apparatus of claim 1 wherein the RLP model comprises:
 - an RLP data structure to hold data indicating characteristics of the RPP; and
 - an RLP traffic shaper to make a transmission unit eligible consistent with the characteristics of the RPP.
7. (Original) The apparatus of claim 5 wherein the flow manager comprises a plurality of queues, one queue for each flow directed toward the RPP.
8. (Original) The apparatus of claim 7 wherein shaping and scheduling are performed by manipulating pointers to the queues.
9. (Original) The apparatus of claim 1 wherein the trunk scheduler statistically multiplexes an aggregate of the flows directed to a plurality of RPPs.

10. (Original) The apparatus of claim 1 wherein the trunk scheduler operates in a weighted round robin non-work conserving manner.

11. (Original) The apparatus of claim 1 further comprising one of an OC-3 port and a DS-3 port.

12. (Original) A system comprising:

a broadband communication link;

a demultiplexer coupled to a plurality of physical ports and the broadband communication link; and

a network element coupled to the communication link, the network element modeling the plurality of physical ports and providing a two-tier hierarchy of shaping and scheduling of flows directed to the plurality of physical ports.

13. (Original) The system of claim 12 wherein the network element comprises:

a first flow shaper to shape a plurality of flows directed to a remote physical port (RPP);

a first scheduler to schedule the flows shaped by the first flow shaper to yield a scheduled flow;

a second flow shaper to shape the scheduled flow; and

a trunk scheduler to schedule the flow shaped by the second flow shaper for transmission to the RPP.

14. (Original) The system of claim 12 further comprising:

a plurality of data structures populated with data indicating characteristics of a remote physical port (RPP); and

a database populated with flow parameters.

15. (Original) The system of claim 14 wherein a one-to-one correspondence exists between RLP data structures and RPPs.

16. (Original) The system of claim 13 wherein the network element comprises:

a queue for each flow directed at a physical port and wherein shaping and scheduling are performed by pointer manipulation.

17. (Original) A method comprising:
 - modeling a plurality of remote physical ports (RPP) as a plurality of remote logical ports (RLP); and
 - reflecting quality of service from a control aggregator to the plurality of RPPs.
18. (Original) The method of claim 17 wherein reflecting comprises:
 - shaping a plurality of flows directed to a RPP into a plurality of shaped flows;
 - scheduling the shaped flow into a scheduled flow;
 - shaping the scheduled flow into a shaped scheduled flow; and
 - scheduling the shaped scheduled flow for transmission to the RPP.
19. (Original) The method of claim 17 wherein modeling comprises:
 - populating a database with an entry indicating an ability of an RPP to handle data.
20. (Original) The method of claim 19 wherein modeling further comprises:
 - creating a data structure for each flow directed to a remote physical port; and
 - manipulating the data structure to indicate eligibility of a transmission unit consistent with the ability of the RPP to handle data.
21. (Original) The method of claim 17 further comprising:
 - statistically multiplexing the flows from the plurality of RLPs to the plurality of RPPs.
22. (Original) The method of claim 17 wherein a one-to-one correspondence exists between the RLPs and the RPPs.